BROADCAST tools INC

PROBLEM SOLVED

Installation and Operation Manual

ADC-1 Plus
Analog to Digital Converter

Manual update: 10/23/2013
If you need a firmware upgrade, contact Broadcast Tools®

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Visit **www.broadcasttools.com** for important product update information.

INTRODUCTION

Thank you for your purchase of the Broadcast Tools® **Analog to Digital Converter 1 Plus,** which we will refer to throughout the manual as the ADC-1 Plus. We're confident this product will give you many years of dependable service. This manual is intended to give you all the information needed to install and operate the product.

SAFETY INFORMATION

Broadcast Tools, Inc., is unable to support NON-Broadcast Tools software/hardware or NON-Broadcast Tools computer hardware/software problems. If you experience these problems, please research your hardware/software instruction manuals or contact the manufacturers technical support department.

Only qualified personnel should install Broadcast Tools® products. Incorrect or inappropriate use and/or installation could result in a hazardous condition.

WHO TO CONTACT FOR HELP

If you have any questions regarding your product or you need assistance, please contact your distributor from whom you purchased this equipment.

If you would like more information about Broadcast Tools® products, you may reach us at:

Broadcast Tools, Inc.
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Fax: 866.783.1742

Internet Home Page: www.broadcasttools.com
E-mail: support@broadcasttools.com

THANK YOU FOR CHOOSING
BROADCAST TOOLS® BRAND PRODUCTS!

Designed in Washington State and assembled in the USA.

CAUTION!

Broadcast Tools® Products, as with any electronic device, can fail without warning. Do not use this product in applications where a life threatening condition could result due to failure.

NOTE:

This manual should be read thoroughly before installation and operation.

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Office Hours
Monday through Thursday, 8:00 am to 5:00 pm Pacific Time; closed Fridays
Welcome to Broadcast Tools

PRODUCT DESCRIPTION

The ADC-1 Plus provides professional quality analog to 24-bit digital audio conversion. The ADC-1 Plus is a perfect companion for converting the analog output of equipment (EAS encoders, etc) to stereo AES. The A/D converter may be configured for sample rates of 44.1 or 48kHz or use an external word clock from 32 to 96kHz. Features: balanced stereo analog inputs and AES output via XLR connectors. The front panel is equipped with left and right analog input trimmers, options dip-switch, LED level meters, and power LED indicator. The ADC-1 Plus is powered by a surge protected bi-polar 15 VDC power supply affording superior headroom and high definition audio. The ADC-1 Plus may be set on a desktop, mounted on a wall or up to three units may be mounted on the optional RA-1, Rack-Able mounting shelf.

INSTALLATION

Please examine your ADC-1 Plus carefully for any damage that may have been sustained during shipping. If any is noted, please notify the shipper immediately and retain the packaging for inspection by the shipper. The package contains the ADC-1 Plus and a +/-15 VDC wall power supply with domestic AC power connector. Manuals may be downloaded from our web site.

Installation of the ADC-1 Plus in high RF environments should be performed with care. Shielded cable is suggested for all audio connections. All shields should be tied to the "G" Ground terminals. The station ground should be connected to the chassis ground screw labeled "CHS GND." It is recommended that all cables connected to the ADC-1 Plus be looped through ferrite cores to suppress RF. Surge protection with RF filtering such as the Tripp-Lite "ISOBAR 4 or 6" is also suggested for the wall transformer.

L/R ANALOG INPUTS Hi Z, active balanced. Connect your source equipment to the left/right input XLR connections. For monaural sources, tie the left and right inputs together, be sure to observe correct phasing. NOTE: If the source feeding the ADC-1 Plus is unbalanced, install a jumper between LT- or RT- pins and GND.

AES OUTPUT Connect this XLR connector to the AES input on your equipment.

WORD CLOCK INPUT Balanced word clock input. Accepts all standard digital audio sample rates from 32 to 96kHz. Must be configured to activate this input.

FRONT PANEL OPTIONS SWITCH

SW1-1 OFF: 44.1 kHz sample rate (factory default).
ON: 48 kHz sample rate. May be special ordered for 32 kHz.

SW1-2 OFF: External Clock
ON: Internal Clock (factory default).

SW1-3 OFF: External clock range: 30 to 59 kHz.
ON: External clock range: 44.1 to 96 kHz (factory default).

SW1-4 Unused

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OPERATION

Power — Insert the power plug into the power jack on the ADC-1 Plus and the wall transformer into the proper AC outlet. Verify that the power LED is lit.

Input Adjust LT/RT — Adjust these controls to the desired AES output level. Set to +4 dBu = -20dbFS at the factory.

Left VU calibrate trimmer – R5.

Right VU calibrate trimmer – R6.

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Specifications

Analog Input Level	0dBu to +24dBu. +4dBu analog input provides -20dBfs AES output when adjusted with the front panel trimmers.
Analog Input Impedance	10K Ω balanced.
Frequency Response	10 to 20kHz +/- 0.5dB.
Distortion	<.001%THD / IMD
Noise	<108dB Ref
AES Output Impedance	110 Ω , balanced.
Word clock input impedance	75 Ω , balanced
Word clock input level	5 volts
Word clock PLL input range	32 to 96kHz
Connectors	Analog inputs, AES output connections: XLR connectors, Word Clock; BNC
Power Requirements	Universal switching power supply with domestic AC connector supplied. +/-15 VDC 400mA output with 3-pin AMP-style latching power connector.
Size:	5.66" x 7.00" x 1.58", Painted aluminum chassis w/ 4 - 4-40 mounting holes.
Weight:	2.0 lb.
Options:	RA-1 rack shelf, holds three units (1-RU) / Filler panels supplied. International connectors optional.

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LIMITED WARRANTY

The term "Buyer" as used in this document refers to and includes both (but only) (a) any person or entity who acquires such an item for the purpose of resale to others (i.e., a dealer or distributor of an item), and (b) the first person or entity who acquires such an item for such person's or entity's own use.

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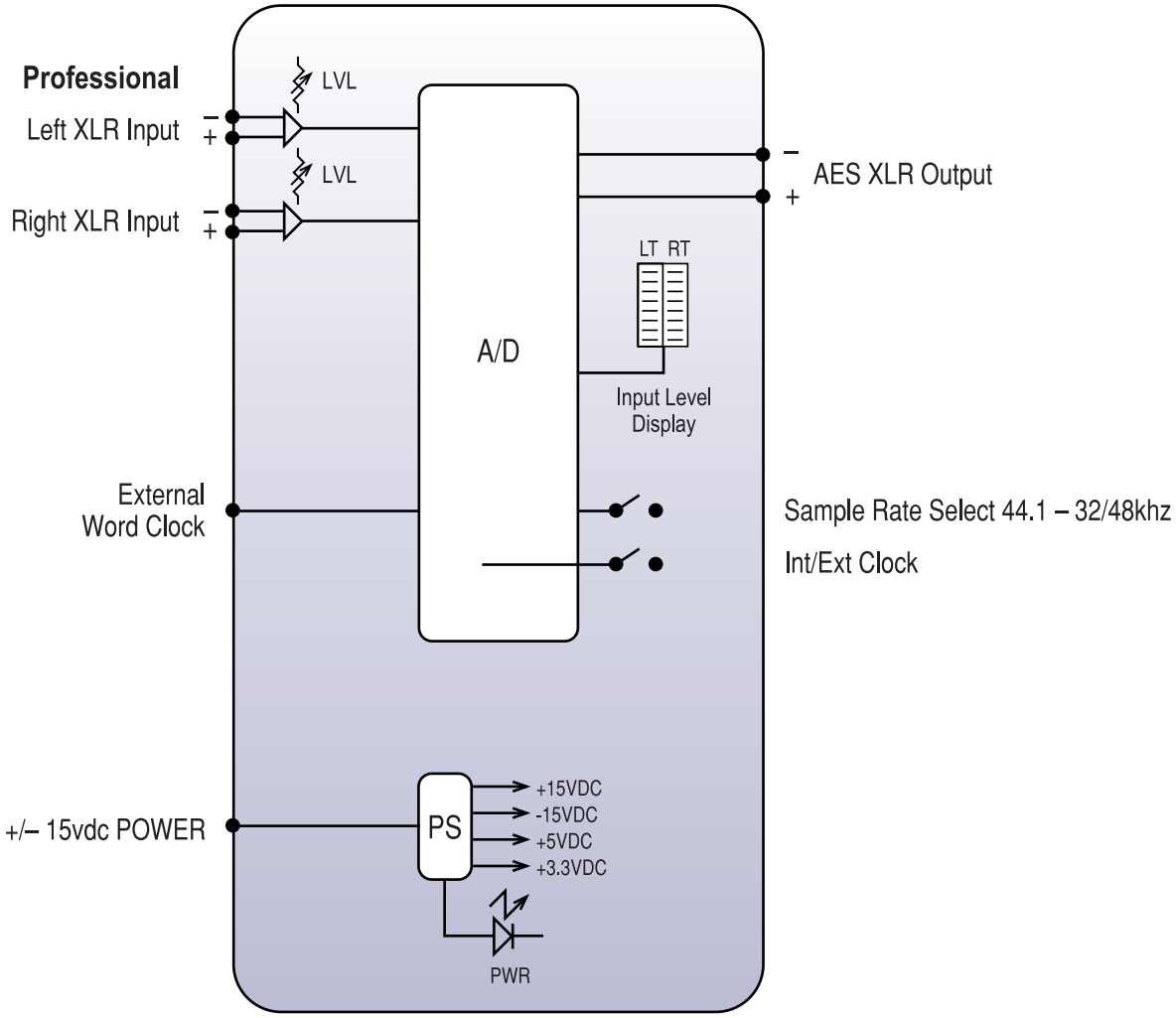
Functional Diagram



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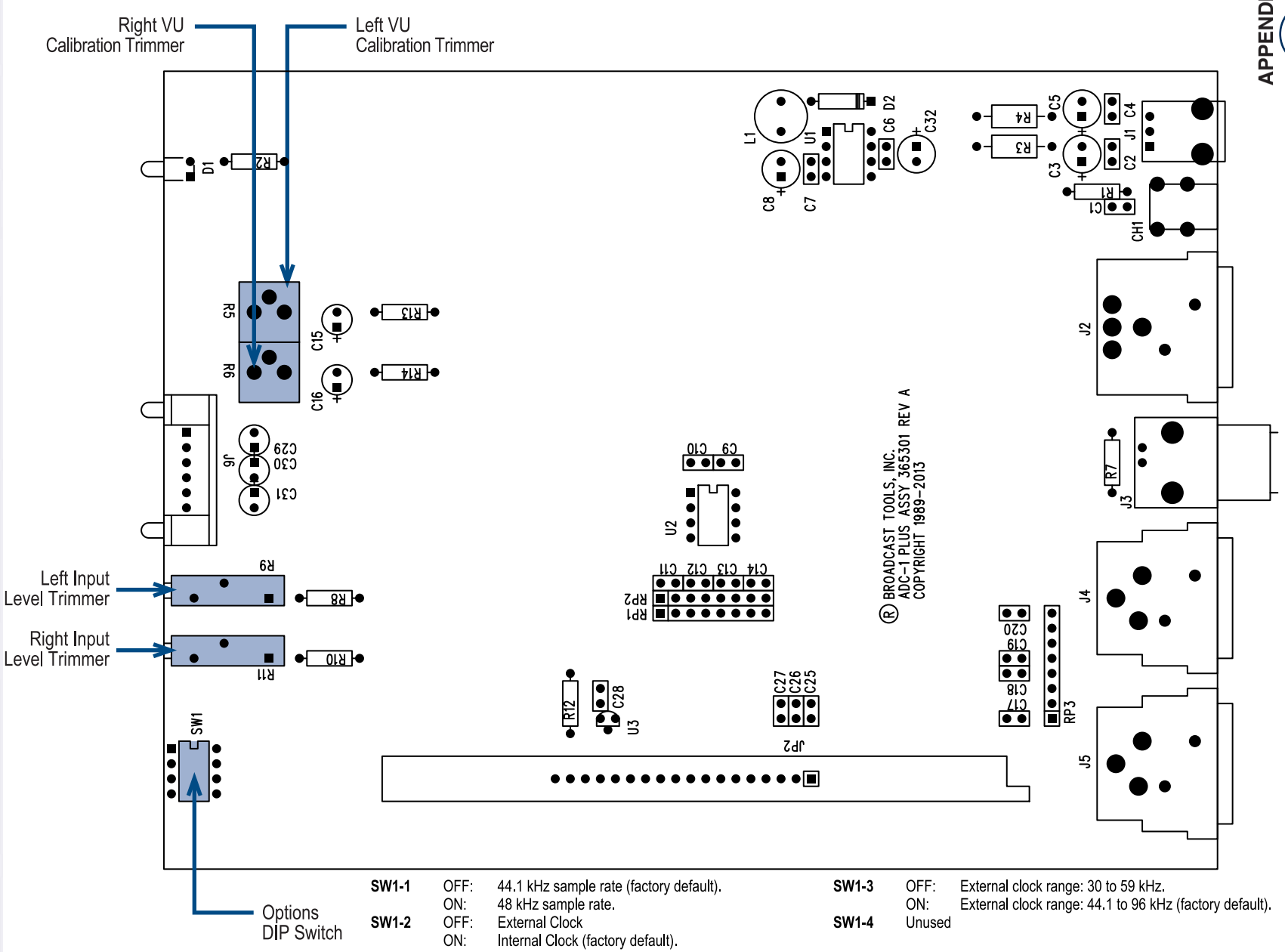
Broadcast Tools® ADC-1 Plus

Jumper and Connection Layout



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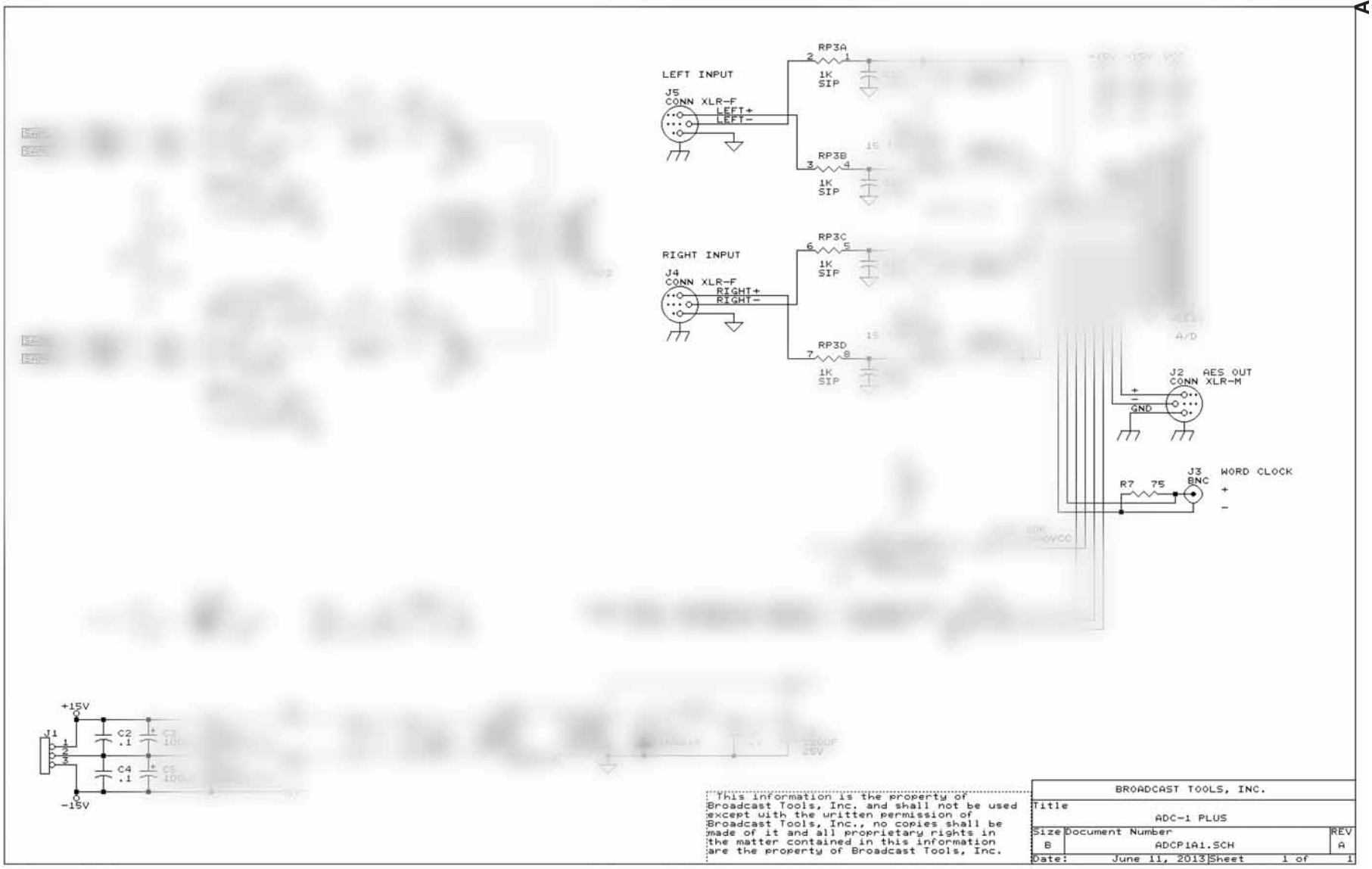
Fractional Schematic



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